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**Sails in Aboriginal Mesoamerica:  
Reevaluating Thompson's Argument**

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### **Abstract**

This study reviews the archaeological and ethnohistorical evidence for aboriginal sail in the Maya area. Most of the paper concentrates on Thompson's (1951) argument, which relied on eyewitness reports of sails as well as on the appearance of words for *sail* in the Motul Dictionary. Thompson's evidence is found to be either equivocal or based on mistranslation of the original Spanish. Furthermore, his linguistic argument fails to support his case. There is no reason to believe that sails were used in any part of Mesoamerica at the time of the Conquest or earlier.

## **SAILS IN ABORIGINAL MESOAMERICA: REEVALUATING THOMPSON'S ARGUMENT**

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For those concerned with the history and development of New World navigation, the existence of sails in pre-conquest Mesoamerica has long been an issue. The negative evidence for sail is overwhelming. Except for a recent report on Tikal graffiti (Webster 1963), to be discussed later, vessels with sails are not shown in any prehistoric Mesoamerican mural art or sculpture. Nor do sails appear in the numerous portrayals of native canoes in pre-Columbian or sixteenth-century codices. It is, therefore, not surprising that most scholars who have commented on Mesoamerican canoes and navigation have found the evidence for sail inadequate. The eighteenth-century historian Clavigero (1817: vol. 2, 194) was perhaps the first to state that the Aztecs did not use sail and later, Bancroft (1883: vol. 2, 739), in his review of the situation, was highly dubious.

The only serious dissent came from J. Eric S. Thompson (1951) who combined the few historical references to sail with linguistic data to assert that the Maya and others from Central America and the Antilles were using sail at the time of their discovery. Thompson's evidence for sail in the Maya area is three fold: eyewitness reports in connection with the arrival of Jerónimo de Aguilar; two citations by Bernal Díaz of native canoes with paddles and sail; and the inclusion of words for *sail*, and *navigate with sail* in the late sixteenth-century Motul Maya dictionary. As supporting data, Thompson cites Oviedo's description of sails used by the Cueva of Panama and Ciudad Real's report of a sailing canoe in the Gulf of Fonseca.

In spite of the preponderance of evidence against it, Thompson's argument has held up well. A successful assault on part of it was launched by McKusick, who cited a report describing the introduction of sails to the Carib of Dominica in 1605. As a result McKusick (1960:9) concluded that "sails were clearly absent in [the pre-Columbian] eastern Caribbean and the Bahamas." But for the Maya area, "the evidence assembled by Thompson (1951) appears convincing that sailing canoes were used off the coasts of Yucatan and Central America" (McKusick 1960:9).

Edwards also found Thompson's argument unassailable. In his critique of assertions for aboriginal sail in the New World, Edwards disposed of most claims outside of Ecuador and northern Peru. However, with regard to the Maya, he noted that "no further evidence supports or diminishes Thompson's hypothesis for Maya sailing, based on a first contact mention of canoe sails by Bernal Díaz del Castillo, as well as linguistic evidence . ." (Edwards 1965:351).

The purpose of this paper is to review the evidence for sail cited by Thompson and to resolve, if possible, the question of whether or not the Maya were using sail at the time of the conquest. The implications of this study are discussed at the end of the paper. What follows is a point-by-point examination of Thompson's evidence. In so doing, I quote from relevant passages in both Spanish and English. This is necessary because part of the confusion arises from errors in translation.

## THE ARRIVAL OF JERONIMO DE AGUILAR

Jerónimo de Aguilar was one of two survivors of a shipwreck off the coast of Yucatan in 1511. He was captured by the Maya and served as a trusted slave to the local ruler. Cortés learned about both survivors while he was on Cozumel island, and sent for them. Only Aguilar responded to the call. After receiving permission from his master to leave, Aguilar made his way to the coast and, with the help of Indian paddlers, crossed the waters between the mainland and Cozumel island where he met Cortés (Díaz 1983:46).

In the report from the Justiciary and Council of the Rica Villa of Vera Cruz, which is usually cited in place of Cortés' missing first letter, Aguilar is said to have arrived in a canoe with sail. Thompson (1951:71) translated the relevant passage as "The next day at noon, a canoe with sail was seen coming in the direction of the island, in which, upon its approach we saw one of the Spanish captives, whose name was Jerónimo de Aguilar." The Spanish text for canoe with sail reads "una canoa a la vela" (Cortés 1985:13). The phrase is often translated as canoe under sail.

Aguilar's arrival is also recorded by Cortés' secretary López de Gómara, in his *Historia de la conquista de Mexico*. Gómara uses precisely the same phrase as the Villa Rica community, "una canoa a la vela" (Gómara 1943:71). Since Gómara was never in Mexico, one might question the validity of juxtaposing his writings with those of the Villa Rica community. In this particular instance, I see no problem, for both rely heavily on Cortés. The Villa Rica letter was dated July 10, 1519. It is generally thought to be a copy in

whole or in part of Cortés' lost first letter, which was written about the same time. Gómara's account was based in part on information supplied by Cortés himself while he was in Spain from 1641 to 1647, as well as Cortés' letters, and Motolón's *Memoriales* (Simpson 1966: xx-xxi ). Since both reports contain the same unequivocal phrase *canoa a la vela*, it seems clear that Cortés and the authors of the Villa Rica report were sure that Aguilar came in a canoe with sail.

At issue is whether that sail was of aboriginal origin. Since Aguilar, was undoubtedly familiar with Spanish ships, it would not be at all surprising if he improvised a sail on the canoe that brought him. This seems especially likely since he was making haste to get to Cortés. Given this strong possibility, the reports of Aguilar's arrival cannot stand alone as evidence that the Maya were using sail on their own canoes.

## THE WRITINGS OF BERNAL DIAZ DEL CASTILLO

Thompson noted that Bernal Díaz referred to sail on two occasions. The first was when he was with Francisco Hernández de Córdoba's expedition of 1517. The expedition was near Cabo Catoche, when "five canoes propelled by sails and paddlers came out to meet them" (Thompson 1951:71). The phrase involving the words sail and paddle reads "a remo y vela" (Díaz 1983:5).

The second event occurred near the entrance to Golfo Dulce in Honduras, where members of Cortés' party saw a merchant canoe. "It was following the coast under sail and with men paddling as well" (Thompson 1951:72). Here Díaz employed the phrase "una canoa a remo y a vela" (Díaz 1983:440).

The most revealing aspect of these accounts is Díaz' use of similar phrases, *a remo y vela* in Córdoba's encounter near Cabo Catoche and *a remo y a vela* near Golfo Dulce. The word *remo* literally means *oar*, but in the New World, it was applied to *paddle* as well. *Vela*, in this context, means *sail*. The combination of the two was interpreted literally by Thompson to indicate that the canoes were propelled by paddles and sails simultaneously.

But the phrase was also used as a metaphor to mean "to do business quickly." While there are slight variations in word order or in the placement of an article, the meaning of the phrase has remained remarkably unchanged, as the following examples indicate: (1)"navegar a vela y a remo es hazer un negocio con presteza" (Covarrubias 1611); (2) "navegar a vela y remo: phrase que ademas del sentido recto significa hacer un negocio con presteza" (Real Academia Española 1726). (3) "a remo y vela: con presteza, premura,

prisa, rapidez, y prontitude" (Ochoa 1893); and (4) "a remo y vela: very expeditiously" (Velásquez 1973).

So the problem is to determine whether Bernal Díaz was using the term in its literal or metaphorical sense. The evidence strongly points to the latter for the following three reasons:

(1) Although Bernal Díaz noted that each of the canoes encountered by Córdoba was trough-shaped, made from a single log, and could hold forty men, he said nothing about mast, spars, rigging, or the shape of the sail. It would certainly have been appropriate for him to have mentioned these features had he observed them.

(2) Two paragraphs after describing the Cabo Catoche event Díaz reported that the next morning the same cacique returned with twelve large canoes with Indian paddlers. "Otro día por la mañana volvió el mismo cacique a nuestros navios y trajo doce canoas grandes, ya he dicho que se dicen piraguas, con indios remeros" (1983:5). Since he was speaking about the same cacique, and probably the same canoes, the fact that Díaz said nothing about sail in this second encounter suggests that none were present, and that he was speaking metaphorically two paragraphs earlier.

(3) Díaz mentioned the word *vela* (sail) in connection with native canoes only twice, and on both occasions he used the phrase *a remo y vela*. The more precise phrase *canoa a vela* (canoe under sail) employed by the Villa Rica community, and by Gómara to describe the canoe that brought Aguilar, does not occur in any of his references to native canoes.

In summary, it is most probable that Bernal Díaz was speaking metaphorically on the two occasions that he described native canoes with oars and sails. He simply meant that the canoes and their crew were in a hurry.

## THE LINGUISTIC EVIDENCE

Thompson's third argument for sail uses linguistic evidence. It is based on the fact that the Maya word for *sail*, *bub*, does not follow the usual pattern for naming objects of

Spanish origin. Before that approach is examined in detail, it would be helpful to have some background on early Mesoamerican dictionaries and their sailing vocabularies.

### *Native Mesoamerican Dictionaries*

Any discussion of Maya sail should note at the outset that words for *sail* and other sail-related terms also appear in sixteenth-century dictionaries of Nahuatl, Tarascan, and Zapotec. These are languages for which no claim for sail or sailing knowledge has ever been made.

Listed below are words and phrases for *sail*, *mast*, and *ballast*, in Spanish, Yucatec Maya, Zapotec, Tarascan and Nahuatl. These are all words that might be expected in a language if the speakers had even a minimal acquaintance with sailing vessels. The vocabulary is taken from dictionaries written in the second half of the sixteenth century. These include Tarascan first published in 1555 (Gilberti 1901); Zapotec published in 1578 (Córdova 1942); and Nahuatl or Aztec published in 1571 (Molina 1970). For Yucatec Maya, I have used the *Diccionario Cordemex* (Vásquez 1980), a compilation of Maya words based on more than 13 different sources, all written at different periods. The earliest, and that which was used by Thompson, is the Motul Spanish-Maya dictionary compiled near the end of the sixteenth century. The Maya-Spanish version was written somewhat later. Following the procedure given in the Cordemex, these two sources are listed below as Yucatec 1 and 2.

#### *Vela (sail)*

Navegar con velas

Zapotec: tizàapitobilào niça nazàbilati

Yucatec 1: bubil

Navegar con velas tendidas

Nahuatl: quachpanyoacalli ycnipano

Tarascan: Tasta hatzicucata himbo paricuni

Poner las velas a la embarcación

Yucatec 1: bub

Vela de Nao

Nahuatl: acalquachpanitl; acalquachpantli

Vela de Nave

Tarascan: ycharutaro ancxcuqua

Yucatec 2: bub, bu'ub, bakam

Vela de navío

Yucatec 2: bakam

Zapotec: làatizábi làniyàgapitòbi nitizáapitòbi

Vela de Navegar

Yucatec 2: bub

*Mastel, Mástil (mast)*

Arbol o mástil de cualquier navío o bajel

Yucatec 1: wa'che' bub

Mastel de Nave

Tarascan: ycharutra chuhcari angauraqua

Nahuatl: acalquauhyollotl;

acalquachpanquauitl

Mastel de navío

Zapotec: yàgapijeçòbalàhuiyàgapitòbi,

yàgacòpèa

*Lastre (ballast)*

Lastre de la nave

Tarascan: tzacapu ycharuta hupitzetaqua

Nahuatl: acaltetl tlatilincateconi

Lastre de Navío

Zapotec: quétiyóo xánaquète làniyágapitòbi

Yucatec 2: ch'uy tun

Tarascan: ycharuta cuetzaperani, hupitzeni.

Lastrar la nave

Nahuatl: nitla, acaltetema. nitla,

tlatilincateconi

Zapotec: ticòoaquè xánaquète yágapitòbi lànini

The fact that native equivalents for *sail*, *mast*, and *ballast* appear in all four Mesoamerican languages raises the strong possibility that the dictionaries are listing native



terms for features of Spanish vessels rather than for their own. There are at least two reasons for believing that this is the case:

(1) The Indians were certainly knowledgeable about European ships, for all of the dictionaries give words or phrases that apply to specific types of Spanish vessels such as the *fusta* or *galera*, or to Spanish ships in general. For example, Maya (Motul 1) gives *Kasteyan chem* for *nave or navio como los de Castilla*, Nahuatl supplies *vey acalli* and *yao acalli* for *galera* or *barco grande*, and *castillan yao acalli* for *fusta*. In Tarascan, we find *castillanapu ycharuta* for *fusta*, and *tepari ycharuta* for *galera*. Zapotec uses the phrase *yaga pitobi tizaalaonica táo* for both *fusta* and *galera*.

(2) Absent in all of the dictionaries are terms that indicate familiarity with the problems and features peculiar to sailboats and sailing, that is the details of the sail itself, the running and standing rigging, and the nature of the masts, yards, and sprits. Presumably if there was a native sailing tradition, a more extensive vocabulary would have been in use. Unfortunately, in this case we cannot be sure if the absence of a sailing vocabulary reflects the true native situation, or the narrow focus of those who compiled the dictionaries.

### *Bub, the Maya word for sail.*

The critical part of Thompson's linguistic argument centers around the significance of *bub*, the Maya word for *sail*.

As is well known, the Maya either adopted the Spanish term for an object not represented in their culture before the Spanish conquest, or, much more rarely, widened a Maya term for a somewhat similar object to cover the new object (e.g., *tizimin*, "tapir," applied to horse, and *haas* "mamey," extended to describe the banana and plaintain). *Bub*, however, has its only other recorded meaning "frog spawn." Nevertheless, *bacam*, which originally meant standard, was in later colonial times given the meaning of sail. This is analogous to the extension of *izimin* to cover "horse" and, did we not have the early entries under *bub*, would be evidence that the sail was a post-Columbian introduction. (Thompson 1951:72)

Thompson's reasoning above implies that there is no connection between frogspawn and sail, and so the Maya were not extending or widening the meaning of *bub* when they applied that word to sail. Had he explored the meaning of frogspawn, which in Spanish is *renacuajo*, he might have come to a different conclusion. *Renacuajo* refers most frequently to polywogs, which obviously do not look like sails at all. But the word is also used for frog eggs, and here the resemblance to sail is much closer. The frog *Physalaemus pustulosus*, which is found on both the east and west coasts of Yucatan, produces egg clusters that appear in groups of free-floating white foam-nets (Ryan 1985: figs. 3.12, 3.14). According to Dr. Ryan (personal communication) an analogy between such foam nets and a flotilla of miniature sailboats would not be unreasonable. If this similarity occurred to the Maya, they may have extended the original meaning of *bub* to include sail. In doing so, the Maya may well have indulged their fondness for punning. The Maya word *bab* means paddle, and its phonetic resemblance to *bub*, meaning sail, is much too obvious to be overlooked.

In summary, it appears that when the Maya gave their words for *sail*, *mast*, and *ballast* to the compiler of the Motul dictionary, they were giving native terms for features of Spanish vessels, not for their own canoes. The Aztec, Totonac, and Zapotec did the same. The fact that the Maya applied their word *bub*, which also means frogspawn, to the European sail is not as unreasonable as Thompson thought. They were simply extending the meaning of that word in a way that did not occur to Thompson. In so doing, they followed a procedure that Thompson himself, in the paragraph quoted above, said "would be evidence that the sail was a post-Columbian introduction" (1951:72).

#### ADDITIONAL REPORTS OF SAIL

There are three reports of sail that need further mention. Two were cited by Thompson; the third is concerned with graffiti from a Late Classic structure at Tikal.

Thompson concluded his discussion of sail by citing two sixteenth century reports that were written some years after the conquest. Neither deals with the Maya. The earliest is Oviedo's report on the Cueva of Panama, which was probably written before 1535. The other, by Ciudad Real, concerns the travels of Alonso Ponce across the Gulf of Fonseca on the Pacific coast of Honduras in 1586. Both reports supply more details than either Cortés or Bernal Díaz, and so they cannot be dismissed easily. The question is whether or not those sails are pre-Columbian in origin.

### *Sails in Panama*

Oviedo's report is exceptionally brief, and the phrasing makes it difficult to determine whether he was talking about the Cueva (i.e., Cuna) of Panama or generalizing about the people of the Antilles. However, since Columbus specifies that native canoes on the islands did not have sails (Colón 1982:73) and McKusick (1960:5) has shown that sails were adopted by the Carib of Dominica in 1605, it seems probable that Oviedo was referring to the Cueva. The entire statement is as follows:

En lo de las canoas assi se usa lo mesmo en esta isla como en la Tierra-Firme, salvo que aunque tienen canoas pequeñas, tambien las usan grandes é mucho mayores questas islas; porque hay canoa que lleva cinquenta ó sesenta hombres é mas, é con sus arboles é velas de algodón, é son muy diestros en ellas, en espeçial los caribes. (Oviedo 1851-55: Cap. XXXII, p. 159)

The canoes they use are the same on this island as on the mainland [i.e. Tierra Firme or Panama]. Although they have small canoes, they also use large ones which are much greater than those of the islands because they can carry fifty or sixty men and more. And they are very skillful with their masts and cotton sails, especially the Caribes.[Translation mine]

Confirmation of Oviedo's statement seems to occur in Columbus' letter to the king and queen dated July 7, 1503. This document, often called the *Lettera Rarissima*, was originally published in Italian and then translated into Spanish on various occasions with varying degrees of accuracy. Morison's characterization of the letter is of special interest: This one [the *Lettera Rarissima*] is positively incoherent. He gives a straightforward account of a storm at sea, then lapses into dreams and visions; he indulges in geographical conceits, but gives a factual description of the Veragua coast; he makes sound observations on the difficulty of sailing eastward in the Caribbean; then launches into a woeful narrative of his wrongs, calculated to draw tears from a compassionate queen. (Morison 1963:372)

The quote that is relevant to sails is sandwiched in a paragraph that appears to be especially incoherent. Morison supplies the following translation:

If the ships of the Indies only sail downwind, it is not because they are poorly constructed or unmanage-able. The strong currents that are met there, together with the wind, make it impossible for anyone to sail on a bowline [i.e., into the wind]. For they would lose in a single day what they might have gained in seven. (Morison 1963:381)

The Spanish text gives:

Las naos de las Indias, si no navegan, salvo a popa, no es por la mala fechura ni por ser fuertes. Las grandes corrientes que allí vienen, juntamente con el viento, hacen que nadie porfié con bolina, porque en un día perderían lo que uviesen ganado en siete. (Colon 1982:300)

Even if we assume these sentences were written during one of Columbus's lucid moments, this passage is troublesome. It is not at all clear whether or not Columbus meant that the canoes carried sail. He used the present plural form of *navegar*, meaning to navigate, which could just as easily imply that the vessels were propelled by paddles. Had he written *canoa a la vela* just once in any of his letters there would be no problem interpreting that sentence. What makes the *Lettera Rarissima* so interesting is that Columbus appears to be writing about the canoes of Veragua, or what is now Panama. This is the same region that Oviedo spoke of when he mentioned the masts and cotton sails of the Cueva.

In summary, statements from both Columbus and Oviedo suggest that sails were used in Panama on native craft during the early part of the sixteenth-century. The reports are tantalizing, for their early dates hint that sails were employed in aboriginal times as well. However the equivocal nature of the citations from both Columbus and Oviedo, indicate that we cannot rely on them. An intensive study of the archival literature is very much needed to settle the matter.

#### *Sail in the Gulf of Fonseca, Honduras*

The *Tratado Curioso y Docto de la Grandezas de la Nueva España* of Antonio de Ciudad Real which describes the journey of Father Alonso Ponce, is remarkable for the details it gives on the canoe, sail, and paddles used in the Bay of Fonseca. The sentence that deals specifically with sails reads, "Ordinariamente las llevan a remo, aunque algunas

veces les ponen las velas de mantillas de algodón o de petates" (Ciudad Real 1976:232). Thompson translates this as: "Ordinarily they propel them with paddles although sometimes they hoist sails of cotton cloth or straw mats [*petates*]" (Thompson 1951:72).

Thompson noted that Alonso Ponce made this trip in 1586, which would have been "... plenty of time for the Indians to have adopted sail from Europeans. Nevertheless, the fact that the sail was of cotton or *petate* strongly suggests an aboriginal use of sail in this area in view of native accounts of cotton or matting from other parts of the New World" (1951:72).

Thompson's logic is far from compelling. What else would one expect a sail to be made of? There is a limitation of acceptable alternatives in sail fabrics, and, given the technology available to sixteenth-century aborigines, either cotton or matting would have been the most obvious choices.

One reason for believing that the sails described by Ciudad Real are post-Columbian introductions is his statement, given above, that "sometimes they hoist sails." If there had been a pre-Columbian sail tradition in the Bay of Fonseca, we would expect that, by the late sixteenth century, sails would be employed frequently. Occasional use suggests that the local Indians were experimenting with a new technique and had not yet developed the skills for sailing into the wind or with the wind abeam.

### *Sails and the Tikal Graffiti*

As noted earlier, the archaeological evidence for sails in Mesoamerica is virtually nonexistent. Sails are not portrayed in any Mesoamerican stela, wall painting, or codex. The only possible exceptions come from the archaeological site of Tikal.

The "sails" are portrayed in various graffiti from Structure 5D-52, dated ca A.D. 700-800, or Late Classic. Webster suggests that they may be boatlike representations or crude astronomical figures (Webster 1963:39, fig. 39). To me, they look something like a banana upon which rest one to three isosceles triangles with their apexes pointing upward. Within the triangle are lines, some vertical, some parallel to the sides of the triangle. No two of these figures are precisely alike.

At first glance the representations appear to be sailboats. But there are at least three problems with this interpretation. The first is that there are no portrayals of water or fish to suggest a marine or lacustrine scene. Second, the absence of people, cargo, or paddles indicates that the objects are not boats or conveyances. The third problem concerns the

triangular forms that supposedly represent the sails. These objects look more like the mast and the shrouds (ie the ropes or cables that support the mast) of a sail-boat, rather than the sail itself. But there is no spar, yard, sprit, or boom to which a sail could be attached. In short, there is no reason to believe that these graffiti portray boats in general, or sailboats in particular.

## CONCLUSIONS

In this somewhat overly long exposition I have tried to demonstrate that Thompson's argument for pre-Columbian sail among the Maya is in error. An examination of his sources indicates that his data are far from unequivocal. The fact that Aguilar arrived in a canoe with a sail does not mean that sails were used aboriginally. Aguilar could have easily improvised a sail in his haste to reach Cortés. Bernal Díaz used the phrase *a remo y vela* (by oar and sail) in connection with native canoes on two occasions, but it is most probable that the expression was used metaphorically where its meaning is "to go quickly or in haste." Finally, the linguistic data in the Motul dictionary show that the Maya, like the Aztecs, Totonac and Zapotec were simply giving the dictionary compilers native words for Spanish vessels rather than for their own canoes. Outside the Maya area, in the Bay of Fonseca, the evidence indicates that even by the end of the sixteenth century the natives were not adept in the use of sail, a fact which suggests that sail was a post-Columbian introduction. In fact, the only area north of Ecuador where sailing canoes seem to have been used in the early sixteenth century is along the north coast of Panama, and here we have only a brief statement from Oviedo, and a suggestive sentence from Columbus to that effect.

As far as the archaeological record is concerned, graffiti from a late classic Tikal temple provide the only prehistoric suggestion of sail in Mesoamerica. However, examination reveals that there is nothing about the context to indicate a marine or lacustrine context, and there are no parallels between these putative sails and sails known anywhere else in the Old or New World. While we cannot be sure what the Tikal graffiti portray, we can be reasonably certain that they are not sails.

Thus, there is no acceptable historical evidence for sail in pre-Columbian Mesoamerica. The reason sails are not mentioned in the hundreds of historic references to native canoes, and the reason that sails are not shown in any of the archaeological materials is simply that sails were not used in Mesoamerica before the Spanish conquest.

The elimination of sail from the Mesoamerican and Central American scene means that at the time of Spanish contact sails were confined to Ecuador, northern Peru, and possibly Panama. Why was the distribution so limited? The most obvious explanation is that sails were a recent innovation in South American culture, and hence did not have time to diffuse. As far as I can determine, this view is consistent with the archaeological evidence. Except for a dubious claim of a sail in a child's burial from Peru (Uhle 1922:49), there are no portrayals of rafts or boats with sails in any of the pre-Columbian ceramics, stone carvings or textiles of South America.

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